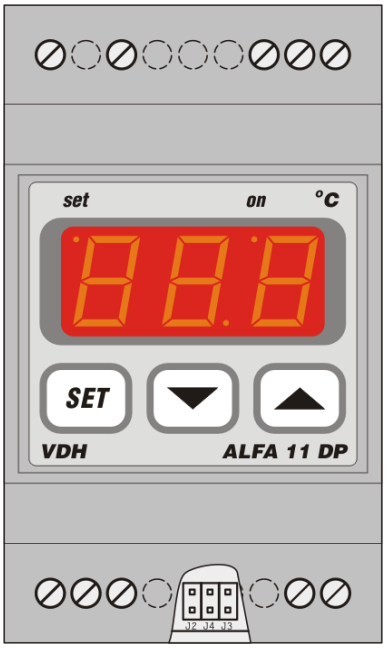
User manual
ALFA 11DP and
ALFANET 11DP

Cool/Heat Thermostat.



VDH doc: 992217 **Version: v2.1** **Date: 12-11-2007**
Software: 043369_ALFA 11/21/31DP File: Do992217.wpd Range: -10/+40˚C per 0,1˚C

* **Function.**

The **ALFA(NET) 11DP** is a digital thermostat for rail mounting. The function from the thermostat can be programmed for cooling or heating. The temperature readout is in tenths of degrees Celsius.
The **ALFA*NET* 11DP** has a RS 485 network connection so it can be read out and adjusted on the Alfanet.

* **Installation.**

On the connection diagram of the **ALFA(NET) 11DP** is shown how the sensor, power supply and relay have to be connected.
After connecting the **ALFA(NET) 11DP** to the power supply, a self-test function is started. As this test is finished, the measured temperature appears in the display.
When the relay is activated, the led 'on' will light-up in the display.

* **Control.**

The **ALFA(NET) 11DP** thermostat can be controlled by three push buttons on the front.
These keys are:

SET - view / change the set point.
UP - increase the set point.
DOWN - decrease the set point.

* **Viewing set point.**

By pushing the **SET** key the set point appears in the display. The led 'set' starts blinking. A few seconds after releasing the **SET** key the set point disappears and the measured temperature is shown in the display.

* Changing set point.

Push the **SET** key and the set point appears in the display. Release the at **SET** key. Now push the **SET** key again and together with the **UP** or **DOWN** keys the set point can be changed. A few seconds after releasing the keys the measured temperature shows again in the display.

* Adjustment sensor.

The sensor can be adjusted by using the Sensor Offset (parameter 04). Indicates the **ALFA(NET) 11DP** e.g. 2˚C too much, the Sensor Offset has to de decreased with 2˚C.

* Error messages.

In the display of the **ALFA(NET) 11DP** the following error messages can appear:

Er - Sensor broken. Solution:
- Check if the sensor is connected correctly.
- Check the sensor (1000Ω at 25˚C).
- Replace the sensor.

EE - Settings are lost. Solution:
- Reprogram the settings.

* Technical details.

Model	:	ALFA 11 DP Cool/Heat Thermostat ALFANET 11 DP Cool/Heat Thermostat with Network
Range	:	-10/+40˚C, readout per 0,1˚C
Supply	:	230 Vac / 1,2VA 50/60Hz (or else see product sticker)
Relay	:	SPDT 250V/16A(C-NO), 8A(C-NC) (cos phi=1)
Control	:	by push buttons on the front.
Communication	:	RS485-Network (2x twisted-pair shielded, min. 0,5mm^2)
Front	:	Polycarbonate
Sensor	:	SM 811/2m (1000Ω at 25˚C)
Sizes	:	90 x 53 x 58mm (hwd)
Panel hole	:	46 x 53mm (hw)

- Provided with memory protection during power failure.
- Connection with screw terminals on the back side.
- Equipped with self test function and sensor failure detection.
- Special version on request available.

* Setting internal parameters.

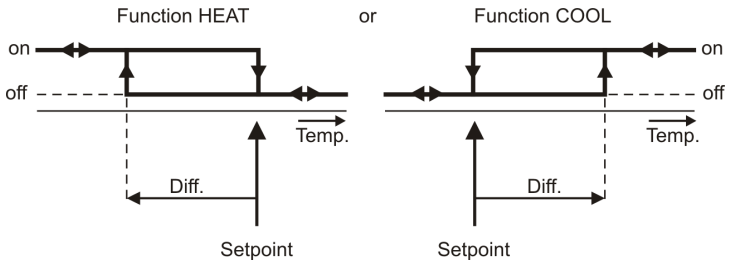
Next to the adjustment of the set point, some internal settings are possible like differential, sensor-offset, set point range and the function cooling or heating.
By pushing the **DOWN** key more than 10 seconds, you enter the 'internal programming menu'. In the left display the upper and lower segment are blinking. Over the **UP** and **DOWN** keys the required parameter can be selected (see table for the parameters).
If the required parameter is selected, the value can be read-out by pushing the **SET** key. Pushing the **UP** or **DOWN** keys together with the **SET** key allows you to change the value of this parameter.
If after 20 seconds no key is pushed, the **ALFA(NET) 11DP** changes to it's normal operation mode.

* Parameters ALFA(NET) 11DP.

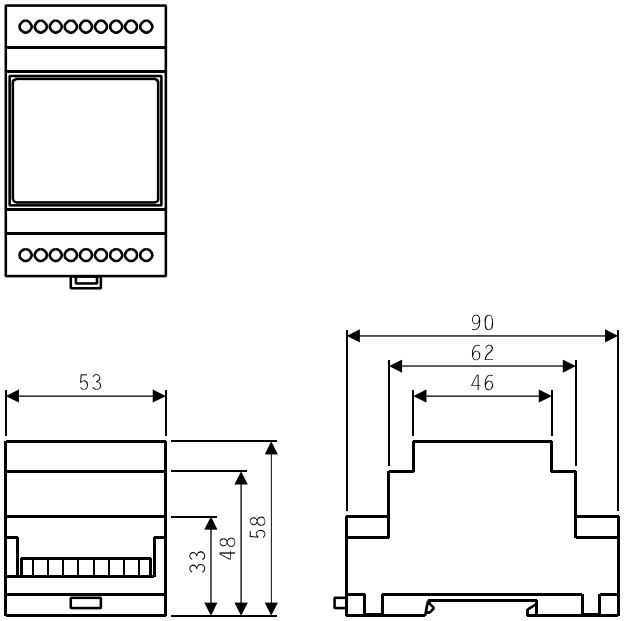
PARA-METER	DESCRIPTION PARAMETER		RANGE	STANDARD VALUE
01	Switching differential		0,1..10˚C	3,0
02	Minimum setpoint		-10,0..+40,0˚C	-10,0
03	Maximum setpoint		-10,0..+40,0˚C	+40,0
04	Offset temperature sensor		-10,0..+10,0˚C	0,0
10	Startup delay after power failure		0..99 Minutes	0
11	Relays on at sensor failure		0 = No, 1 = Yes	0
15	Function cooling or heating		0 = Cool 1 = Heat	0
16	Switch on delay relays	1)	0..99	0
17	Switch off delay relays	1)	0..99	0
18	Parameter 16/17 in seconds or minutes		0 = Seconds, 1 = Minutes	0
19	Minimum on-time relays		0..99 Minutes	0
20	Minimum off-time relays		0..99 Minutes	0
90	Network number		1..250	1
95	Software version		0..255	-
96	Production year		00..99	-
97	Production week		1..52	-
98	Serial number (x1000)		0..255	-
99	Serial number (units)		0..999	-

1) At active delay LED ‘on’ is blinking

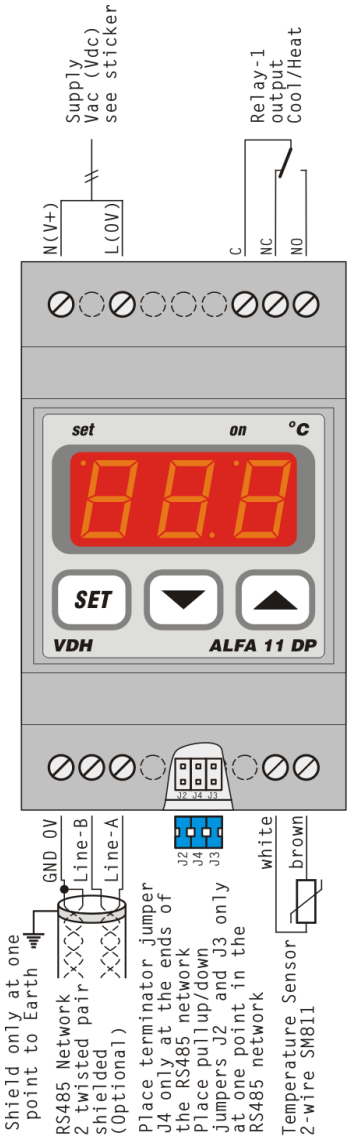
* Function diagram.



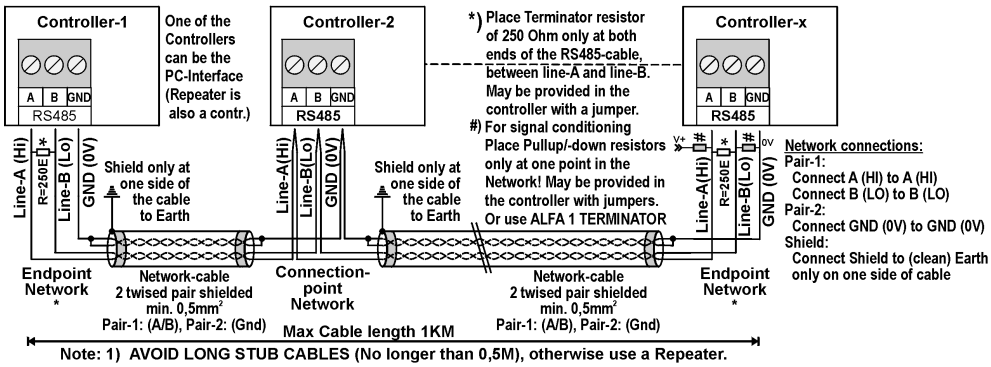
* Dimensions.



* Connections.



RS 485 NETWORK CONNECTIONS 2-twisted pair shielded cable:


Controller-1
A B GND
RS485
One of the Controllers can be the PC-Interface (Repeater is also a contr.)
Controller-2
Controller-x
*) Place Terminator resistor of 250 Ohm only at both ends of the RS485-cable, between line-A and line-B. May be provided in the controller with a jumper.
#) For signal conditioning Place Pullup/-down resistors only at one point in the Network! May be provided in the controller with jumpers. Or use ALFA 1 TERMINATOR
Line-A (Hi)
Line-B (Lo)
GND (0V)
R=250E
Shield only at one side of the cable to Earth
Endpoint Network
Network-cable 2 twised pair shielded min. 0,5mm²
Pair-1: (A/B), Pair-2: (Gnd)
Connection-point Network
Max Cable length 1KM
Network connections:
Pair-1:
Connect A (HI) to A (HI)
Connect B (LO) to B (LO)
Pair-2:
Connect GND (0V) to GND (0V)
Shield:
Connect Shield to (clean) Earth only on one side of cable
Note: 1) AVOID LONG STUB CABLES (No longer than 0,5M), otherwise use a Repeater.

* Address.

VDH Products BV
Produktieweg 1
9301 ZS Roden
The Netherlands

Tel: +31 (0)50 30 28 900
Fax: +31 (0)50 30 28 980
Email: info@vdhproducts.nl
Internet: www.vdhproducts.nl